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10/551,484	01/04/2007	Beyong-Hwan Ryu	930086-2015	4123

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Ronald R Santucci
Frommer Lawrence & Haug
745 Fifth Avenue
New York, NY 10151

EXAMINER

HENDRICKSON, STUART L

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1736

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.



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**BEFORE THE BOARD OF PATENT APPEALS
AND INTERFERENCES**

Application Number: 10/551,484
Filing Date: January 04, 2007
Appellant(s): RYU ET AL.

Howard Lee
For Appellant

EXAMINER'S ANSWER

This is in response to the appeal brief filed 12/20/10 appealing from the Office action mailed 6/7/10.

(1) Real Party in Interest

The examiner has no comment on the statement, or lack of statement, identifying by name the real party in interest in the brief.

(2) Related Appeals and Interferences

The examiner is not aware of any related appeals, interferences, or judicial proceedings which will directly affect or be directly affected by or have a bearing on the Board's decision in the pending appeal.

(3) Status of Claims

The following is a list of claims that are rejected and pending in the application: 1, 3-11.

(4) Status of Amendments After Final

The examiner has no comment on the appellant's statement of the status of amendments after final rejection contained in the brief.

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(5) Summary of Claimed Subject Matter

The examiner has no comment on the summary of claimed subject matter contained in the brief.

(6) Grounds of Rejection to be Reviewed on Appeal

WITHDRAWN REJECTIONS

The following grounds of rejection are not presented for review on appeal because they have been withdrawn by the examiner: The rejection of claim 7 under 112 1st paragraph.

(7) Claims Appendix

The examiner has no comment on the copy of the appealed claims contained in the Appendix to the appellant's brief.

(8) Evidence Relied Upon

7,001,581

KAWAKAMI et al.

2-2006

(9) Grounds of Rejection

The following ground(s) of rejection are applicable to the appealed claims:

Claims 1, 3-11 are rejected under 35 U.S.C. 103(a) as obvious over 7001581.

The reference teaches, especially in col. 5-11 and ex. 1, making nanotubes from nanometals (compare to present specification) under supercritical conditions. The hydrocarbon is exposed to these conditions during synthesis, even though an additional material is referred-to. Cooling is axiomatic in the recovery of the product. While the reference does not teach the compounds enumerated, the teaching of acid salts and enumeration of formate and oxalate renders the claims obvious, since these are organic acid anions (like acetate). 15 Mpa is about 1.5 atmospheres. As to claims 4, 9 and 10, the above does not explicitly teach the relative amounts and cooling rates, however these are routine variations to one of ordinary skill to optimize reaction time and throughput for large-scale processing.

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(10) Response to Argument

It is not necessary for the reference to use the same descriptive phrase 'autogenous seed' to describe the material. The catalyst of the reference is in fact an autogenous seed also because it is spontaneously generated in situ. Furthermore, the actual catalyst material in the specification is a Group 8 metal, which is formed from salts of said metal. In Kawakami, the catalyst is also a group 8 metal, and col. 10 of the reference explains the autogenous formation. If that is not enough, then it is noted that the conditions of Kawakami are sufficient to reduce the organic compound to metal, just as in the present process. Note that the specification urges that the present process can work as low as 200 degrees, thus the 450 degrees of ex. 1 of Kawakami would be expected to provide the same catalyst. In essence, the only difference between the present claims and reference is the exact identity of the anion which is burned off. However, since this anion disappears and does not form a role in the process, its identity is not critical and applicant has not established criticality or unexpected result.

The next argument is that the present process makes nanotubes of 15-20 nm. However this is not claimed- but see col. 12 of the reference. The implication that the reference operates via a different mechanism of growth control is neither credible nor established nor relevant- it is the process steps which dictate what happens.

As to claims 4 and 9-11, these parameters can be optimized, as explained. It is not clear why they could not be routinely varied- use more metal salt if you want 20% metal, use more cooling water or cool inert gas if you want a higher cooling rate, etc; see col. 14 lines 55-65 for reactor control. From the data in ex. 1 and 11, it appears that the amount of Ni to Carbon (from the dry ice) will be greater than 0.001% so claim 4 appears met by the reference. If appellant disagrees, they may provide a separate calculation.

As to the identity of the organic salt, this is taught as an option in the reference, thus the argument that it 'is not required' fails. Furthermore, nickel formate is explicitly mentioned in an example, so arriving at it is not a matter of 'magic divination'. The argument about the catalyst overlooks the use of organic acid salts, as noted above.

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(11) Related Proceeding(s) Appendix

No decision rendered by a court or the Board is identified by the examiner in the Related Appeals and Interferences section of this examiner's answer.

For the above reasons, it is believed that the rejections should be sustained.

Respectfully submitted,

/Stuart Hendrickson/

Primary Examiner, Art Unit 1736

Conferees:

/Stanley Silverman/

Supervisory Patent Examiner, Art Unit 1736

/Tom Dunn/

Quality Assurance Specialist, TC 1700